

**WHAT IS CLAIMED IS:**

1           1.       A method of managing a network device, comprising:  
2           providing a command-line interface application programming interface (CLI-API)  
3           compatible with a command-line interface (CLI) of the network device;  
4           receiving an instruction from an application configured to call one or more routines in  
5           the CLI application programming interface; and  
6           generating at least one command in response to receiving instructions from the  
7           application wherein the at least one command is compatible with the CLI of the network  
8           device.

1           2.       The method of claim 1, wherein the CLI-API is implemented as one or more  
2           object-oriented classes and the one or more routines are method calls in the one or more  
3           object-oriented classes.

1           3.       The method of claim 2, wherein the class and methods are compatible with the  
2           Java object-oriented programming language.

1           4.       The method of claim 2, wherein the one or more object-oriented classes are  
2           selected from a set of classes including a session management class, an input-output class, a  
3           configuration class, a macro-generation class, and other classes.

1           5.       The method of claim 1, wherein the at least one command in the CLI of the  
2           network device is capable of performing one or more network management operations  
3           selected from a set of operations including configuring a network device, gathering  
4           information on network interfaces on a network device, bringing a network device up or  
5           down on a network, and downloading a new image to a network device.

1           6.       A network system having network management capabilities, comprising:  
2           a non-application enabled network device having a command line interface (CLI)  
3           capable of controlling one or more network management features of the non-application  
4           enabled network device; and  
5           an application-enabled network device capable of executing applications that use a  
6           command-line interface application programming interface (CLI-API) to generate one or

more commands compatible with the CLI of the non-application enabled network device and transmit the one or more commands to the non-application enabled network device over the network for execution.

7. The network system of claim 6, wherein the application-enabled network device is capable of processing object-oriented applications compatible with the Java programming language.

8. The network system of claim 6, wherein a remote serial command line interface (RS-CLI) device connected between the network and the non-application enabled network device receives an application over the network from the application-enabled network device, executes the application and produces commands transmitted over a serial connection connected to the non-application enabled network device wherein the commands are compatible with the CLI on the non-application enabled network device.

9. The network of claim 8, wherein the RS-CLI device comprises,  
a storage device capable of storing an instruction;  
a network port capable of processing a network protocol stack and connected to the network;  
a serial port capable of processing a serial protocol and connected to the non-application enabled network device; and  
a processor capable of processing the instruction stored in the storage area of the RS-CLI device that at least generates a command compatible with a CLI of a network device in response to processing the instruction stored in the storage area.

10. The RS-CLI device of claim 8, wherein the instruction stored in the storage area is from a software component selected from a set of software components including an operating system, an object-oriented component, a virtual machine, and a network protocol stack.

11. A remote serial command-line interface (RS-CLI) device comprising:  
a storage device capable of storing an instruction;  
a network port capable of being connected to the network and capable of processing a

4 network protocol stack in addition to receiving the instruction;  
5 a serial port capable of processing a serial protocol and capable of being connected to  
6 the non-application enabled network device; and  
7 a processor capable of processing the instruction stored in the storage area of the RS-  
8 CLI device that at least generates a command compatible with a CLI of the non-application  
9 enabled network device in response to processing the instruction stored in the storage area.

1 12. The RS-CLI device of claim 11, wherein the instruction in the storage area is  
2 from a software component stored in the storage area and selected from a set of software  
3 components including an operating system, an object-oriented component, a virtual machine,  
4 a network protocol stack, and an object-oriented application.

1 13. A method of managing a network device, comprising:  
2 receiving an application having instructions compatible with a command-line  
3 interface application programming interface (CLI-API) configured to work with a command-  
4 line interface (CLI) of the network device;  
5 creating CLI commands capable of controlling the network device in response to  
6 processing one or more of the instructions compatible with the CLI-API;  
7 transmitting the CLI commands created by the CLI-API over a network to the  
8 network device; and  
9 processing the CLI commands on the network device.

1 14. The method of claim 13, wherein the step of processing the CLI commands on  
2 the network device manages one or more aspects of the operation of the network device.

1 15. The method of claim 13, further comprising,  
2 providing results from the processing of the CLI commands on the network  
3 device over the network and to the application.

1 16. The method of claim 13, wherein the application is executed on an  
2 application-enabled network device and the network device is a non-application enabled  
3 network device having a CLI.

1 17. The method of claim 13, wherein the application enabled network device is

capable of processing Java object-oriented instructions.

18. An apparatus for managing a non-application enabled network device, comprising:

an application-enabled network device configured to receive an application having instructions compatible with a command-line interface application programming interface (CLI-API) that works with a command-line interface (CLI) of the non-application enabled network device;

a processor associated with the application-enabled network device that executes the application and creates CLI commands in response to processing one or more of the instructions compatible with the CLI-API wherein the commands are capable of controlling the non-application enabled network device; and

a network interface on the application-enabled network device that transmits the CLI commands created by the CLI-API over a network for processing by the non-application enabled network device.

19. The apparatus of claim 18, wherein the CLI commands created on the application-enabled network device are capable of controlling one or more aspects of the operation of the non-application enabled network device.

20. The apparatus of claim 17, wherein the application-enabled network device receives results over the network from the processing of the CLI commands on the non-application enabled network device.

21. The apparatus of claim 17, wherein the application-enabled network device can process Java object-oriented instructions.